ACCESSION NR: AP4043616   S/0056/64/047/002/0455/0463

AUTHORS: Brandt, N. B.; Gaydukov, Yu. P.; Itsekevich, Ye. S.;
Minina, N. Ya.

TITLE: Effect of pressure on the oscillation effects in bismuth

SOURCE: Zh. eksper. i teor. fiz., v. 47, no. 2, 1964, 455-463

TOPIC TAGS: bismuth, quantum statistics, resistance, magnetic sus-
ceptibility, low temperature phenomenon, high pressure research,
Fermi surface

ABSTRACT: This is a sequel of an earlier study by two of the pre-
sent authors (Gaydukov and Itskevich, ZhETF, v. 45, 71, 1963) on
the effects of uniform compression on the quantum oscillations of
the electric resistance (Shubnikov-deHaas effect) of zinc. The
present study is devoted to the effective uniform compression on
the quantum oscillations of the magnetic susceptibility (pressures

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ACCESSION NR: AP4043616

1300--1600 kg/cm^2) and the electrical resistance (at 3000--7500 kg/cm^2) in bismuth at liquid helium temperatures. The test procedure is described. In addition, the influence of pressure on the deHaas-van Alphen effect was investigated using a procedure described elsewhere (N. B. Brandt, Ya. G. Ponomarev, PTE, no. 6, 114, 1961). The influence of uniform compression on the quantum oscillations of the electric resistance was measured by a method of Ye. S. Itskevich (PTE, no. 4, 148, 1963). The results showed a decrease in the oscillation frequency, amounting to 37% at 7500 kg/cm^2. The results are interpreted on the basis of a model wherein the Fermi surface of bismuth consists of one hole and three electron ellipsoids, and the test results on the two effects in bismuth are in good mutual agreement. An analysis of the influence of uniform compression on the Fermi surface shape and on other characteristics of bismuth at low temperatures is presented. The possibility that bismuth would go over into a dielectric state at low temperatures is discussed. "We thank L. F. Vereshchagin and A. I. Shal'nikov for

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ACCESSION NR: AP4043616

their interest in this work and V. A. Sukharov for help with the
experiments." Orig. art. has: 6 figures and 1 table.

ASSOCIATION: Moskovskiy gosudarstvenny*y universitet (Moscow State
University); Institut fiziki vy*sokikh davleniy Akademii nauk SSSR
(Institute of Physics of High Pressures, Academy of Sciences SSSR)

SUBMITTED: 17Mar64   ENCL: 01

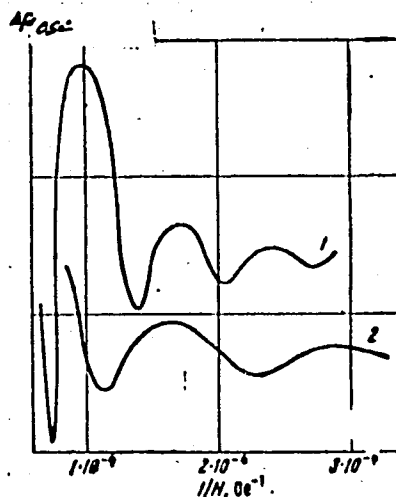SUB CODE: SS   NR REF SOV: 014   OTHER: 006

Card 3/4

ACCESSION NR: AP4043616

Dependence of oscillating part
of magnetoresistance on the
reciprocal magnetic field in-
tensity at 1.5K.

1 - p = 0
2 - p = 7500 kg/cm^2

Curves shifted vertically in
arbitrary fashion

L 00719-66   E.JT(1)/EJT(m)/ETC(m)/EJP(b)/EJP(t)   IJP(c)   JD

TITLE: Variations in resistance and open electron trajectories in zinc

TOPIC TAGS: zinc, single crystal, electric resistance, magnetic field, electron
motion, electron trajectory, magnetic effect

ABSTRACT: The "magnetic breakdown" effect has been proposed as a theoretical ex-
planation for the anomalous phenomena of huge variations in resistance and open elec-
tron trajectories in the (0001) plane in zinc. To check this hypothesis, the auth-
ors conducted experiments aimed at detecting a relationship between these two phe-
nomena. Galvanic measurements were made at a temperature of $1.3°K$ in fields of up
to 24,000 oersteds using zinc single crystal specimens with dimensions of
$1 \times 1.5 \times 20$ mm. The ratio of resistance at room temperature to resistance at $4.2°K$
in these samples was ~18,000. The axes of the specimens were either parallel to
plane (0001) or at a small angle to this plane. The amplitude of variations in re-

Card 1/2

L 00719-66

ACCESSION NR: AP5014236

sistance was measured as a function of the direction of the magnetic field and the
measuring current with respect to the crystallographic axes. The amplitude of the
variations reached a maximum for field directions parallel to plane (10$\bar{1}$0). The
amplitude fell to 1/10 at deviations of 3-4°. It was found that the region of huge
variations in resistance in zinc coincides with magnetic field directions where
open electron trajectories appear on the Fermi surface in the basal plane. The
full results of the investigation will be published in a subsequent article. "We
are sincerely grateful to Professor A. I. Shal'nikov for his interest in the work
and his concern." Orig. art. has: 2 figures.

ASSOCIATION: Moskovskiy gosudarstvennyy universitet im. M. V. Lomonosova (Moscow
State University)

SUBMITTED: 26Mar65   ENCL: 00   SUB CODE: EM, SS

NO REF SOV: 002   OTHER: 004

Card 2/2

L 11965-66   EWT(1)/EWT(m)/EWP(t)/EWP(b)   LIP(c)   JD

ACC NR: AP5026593   SOURCE CODE: UR/0056/65/049/004/1049/1053

AUTHOR: Gaydukov, Yu. P.

ORG: Moscow State University (Moskovskiy gosudarstvennyy universitet)

TITLE: Anisotropy of the electrical resistance of indium in a magnetic field

SOURCE: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 49, no. 4, 1965, 1049-1053

TOPIC TAGS: indium magnetoresistance, galvanomagnetic effect, single crystal, angular distribution

ABSTRACT: The dependence of the resistance on the crystallographic direction and on the magnetic field intensity was measured for three single-crystal samples of indium whose axes were parallel to [001], [101] and [110]. The crystals were grown by the Obreimov-Shubnikov method in glass capillaries, and were 1.5 -- 2 mm in diameter and about 30 mm long. The angle and field dependences of the resistance were measured in two stages, automatically with a two-coordinate recorder and manually at selected points, the latter to facilitate elimination of the thermoemf, Hall emf, and null drift of the amplifier. The measurements were made

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L 11965-66

6.

ACC NR: AP5026593

in fields up to 23 kOe at 4.2 and 1.3K. None of the samples exhibited anisotropy of resistance in a magnetic field. The resistance of the samples decreased by a factor of 18000 when the samples were cooled from 300 to 4.2K. On further cooling to 1.3K the resistance decreased by another factor of 3. The dependence of the resistance on the magnetic field intensity was plotted for different crystallographic directions, and all plots exhibited saturation. The results confirm that the Fermi surface of indium is not open. Author thanks V. F. Gantmakher and R. T. Mina for interest in these measurements. Orig. art. has: 3 figures.

SUB CODE: 20/   SUBM DATE: 13May65/   NR REF SOV: 004/   OTH REF: 002

Card 2/2

L 15366-66 EWT(1)/EWT(m)/EWP(t)/EWP(b)   IJP(c)   JD/AT

ACC NR: AP6000194   SOURCE CODE: UR/0056/65/049/005/1411/1423

AUTHORS: _Gaydukov, Yu. P.;_ Krechetova, I. P.

ORG: Moscow State University (Moskovskiy gosudarstvennyy universitet)

TITLE: Open electron trajectories and resistivity oscillations in zinc

SOURCE: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 49, no. 5, 1965, 1411-1423

TOPIC TAGS: zinc, resistivity, magnetoresistance, single crystal, galvanomagnetic effect, magnetic field

ABSTRACT: The purpose of the investigation was to discover a relationship between open sections of the Fermi surface and resistivity oscillations in zinc. To this end, the resistivity oscillation amplitude (with period 6.2×10^{-5}/Oe) was measured as a function of the magnetic field direction and of the measuring current in "pure" zinc single crystals within magnetic fields up to 24 kOe at 1.3K. The single crystals were grown by the Obreimov-Shubnikov method or were

Card   1/2

L 15366-66
ACC NR: AP6000194

cut from larger crystals by spark erosion.   The samples were mounted
conventionally for galvanomagnetic measurements at helium tempera-
tures.   The test procedure in methods of eliminating the monotonic-
increase background of the resistivity oscillations are described.
The test results obtained were improved values of the dimensions of
the projections of preferred magnetic field directions for the open
Fermi surfaces of zinc, the resistivity oscillation amplitude as a
function of the angle for different field magnetic rotation angles.
The results indicate that the region of resistivity oscillations
coincides with the region of magnetic field directions for which open
cross sections of the Fermi surface occur in the basal plane.   The
oscillation amplitude is determined by the electrons that belong
simultaneously to open and closed zinc Fermi surfaces.   The experimen-
tal results suggest that magnetic breakdown of the Fermi surface
occurs in zinc.   Authors thank Professor A. I. Shal'nikov for interest
in the work.   Orig. art. has: 7 figures and 13 formulas.

SUB CODE: 20/   SUBM DATE: 04Jun65/   ORIG REF: 007/   OTH REF: 012

Card   2/2 ВС

GAYDUKOVA, L.A.

"Cuba; historical and ethnological studies" edited by A.V.Efimov,
I.R.Grigulevich. Reviewed by L.A.Gaidukova. Izv. AN SSSR.
Ser. geog no.1:158-159. Ja-F '62.   (MIRA 15:2)
                    (Cuba—History)
                    (Cuba—Ethnology)
                    (Efimov, A.V.)
                    (Grigulevich I.R.)

GAYDUKOVA, N. P.

Gaydukova, N. P. -- "Biological Fundamentals for the Organization of Pasture Rotations in the Northern Portion of the Desert Steppe." Min Higher Education USSR, Stalingrad Agricultural Inst, Stalingrad, 1955 (Dissertation for the Degree of Candidate in Agricultural Sciences)

SO: Knizhnaya Letopis', No. 23, Moscow, Jun 55, pp 87-104

SUBBOTINA, A.P., uchitel'nitsa, GAYDUKOVA, T.A., uchitel'nitsa,
    BARABASH, A.D., unchitel'nitsa, PAVLOVA, M.I.; SOPKIN, G.A.;
    ADAYEV, M.U.

Speeches of delegates to the All-Union Teachers' Congress. Biol.
v shkole no.5:10-16 S-O '60.   (MIRA 13:11)

1. Goryachevodskaya srednyaya shkola, predgornogo rayona, Stavropol'-
skogo kraya 'for Subbotina). 2. Kantemirskaya srednyaya shkola,
Voronezhskoy oblasti (for Gaydukova). 3. Srostinskaya srednyaya
shkola, Altayskogo kraya (for Barabash). 4. Direktor Yermishinskoy
sredney shkoly, Ryazanskoy oblasti; chlen-korrespondent Akademii
pedagoficheskikh nauk RSFSR (for Pavlova). 5. Direktor Tigil'skoy
sredney shkoly, Kamchatskoy oblasti (for Sopkin). 6 Direktor Kad-
garonskoy sredney shkoly, Severo-Osetinskoy ASSR (for Adayev).
                    (Agriculture—Study and teaching)

V. G. Gaydukova

PHASE I BOOK EXPLOITATION SOV/1700

* Lvov. Universitet

Materialy X Vsesoyuznogo soveshchaniya po spektroskopii, 1956.
t. II: Atomnaya spektroskopiya (Materials of the 10th All-Union
Conference on Spectroscopy, 1956. Vol 2: Atomic Spectroscopy) [Lvov] Izd-vo L'vovskogo univ., 1958. 568 p. (Series: Its Uchenyye zapiski, v75.k(9)) 3,000 copies printed.

Additional Sponsoring Agency: Akademiya nauk SSSR. Komissiya po spektroskopii.

Editorial Board: S.L. Mandelberg, Academician, (Resp. Ed.);
S.E. Frisch, Doctor of Physical and Mathematical Sciences;
D.I. Blokhintsev, Doctor of Physical and Mathematical Sciences;
A.A. Lebedev, Doctor of Physical and Mathematical Sciences; S.M. Rayskiy,
V.K. Prokofyev, Candidate of Technical Sciences; L.K. Klimovskaya,
Candidate of Physical and Mathematical Sciences; V.S. Miliyanchuk,
Candidate of Physical and Mathematical Sciences; A.Ye.
[...], Doctor of Physical and Mathematical Sciences;
[...], Doctor of Physical and Mathematical Sciences; T.V. Baranova;
M.: S.L. [...].

PURPOSE: This book is intended for scientists and researchers in
the field of spectroscopy, as well as for technical personnel
using spectrum analysis in various industries.

COVERAGE: This volume contains 177 scientific and technical studies
of atomic spectrography presented at the 10th All-Union Confer-
ence on Spectroscopy in 1956. The studies were carried out by
a number of scientific and technical institutes and include
extensive bibliographies of Soviet and other sources. The
studies cover many phases of spectroscopy: spectra of rare earths,
electromagnetic radiation, physics and technology of gas discharge,
uranium production, physical dispersion in metal vapors,
optics and spectroscopy, abnormal dispersion, analysis of ores
spectroscopy and the combustion theory, spectroscopic spectrum
and minerals, photographic methods for quantitation of the
analysis of metals and alloys, spectral determination of the
hydrogen content of metals by means of isotopes, tables, and
statistical study of spectral lines, spark spectrographic analysis
curves, determination of traces of metals, spectrum analysis in
metallurgy, thermochemistry in metals, principles and
practice of spectrochemical analysis.

Card 2/31

[...]

Kirichenko, A.I. Spectral Method for the Determination of
Sodium and Potassium in Chamotte, Dinas Brick, Magnesite,
and Other Refractory Materials   479

Glushkova, L.A., M.A. Zotin, and A.R. Shavrin. Experimental
Study of the Relationship Between the Relative Intensity of
Vanadium, Chromium, and Nickel Spectral Lines and the
Concentration in the Standard Samples   483

Gutkina, E.I., and V.G. Gaydukova. Spectrum Analysis of Pure
Metal Antimony   487

Yarko, V.P., and E.I. Bugayeva. Spectrographic Determination
of Iron, Aluminum, Calcium, Magnesium, Copper, and Nickel in
Metal Manganese of High Purity   490

Ufentte, Ye.V., and E.I. Bugayeva. Spectrum Analysis of
Chromium for the Determination of Mixtures   491

Card 27/31

SOV/81-59-16-56922

Translation from: Referativnyy zhurnal, Khimiya, 1959, Nr 16, p 137 (USSR)

AUTHORS: Gutkina, R.I., Gaydukova, V.G.

TITLE: The Spectral Analysis of Pure Antimony Metal

PERIODICAL: V sb.: Materialy 1-go Ural'skogo soveshchaniya po spektroskopii, 1956.
             Sverdlovsk, Metallurgizdat, 1958, pp 81-84

ABSTRACT: A method for determining Cu, Zn, Pb, Na, Fe, As, Ni, Bi, Co and Mn in
             pure antimony (99.98%) has been developed. The standards are prepared
             by the dilution of the standard sample SbN 187 of the Ural Institute of
             Metals with very pure antimony. The samples and the standards are placed
             in the opening of a carbon electrode. The spectra are photographed with
             an average quartz spectrograph. If the concentration of the element in
             the standard Nr 187 is C and the mass of the addition of the analyzed
             sample is n times greater than the mass of the standard, then the con-
             centrations after the additions are equal to: $(C+nx)/(n+1)$, $(C+n_1x)/$
             (n_1+1), etc. In the coordinates I_1/I_2, versus C a straight line is drawn
             through the point corresponding to the standard Nr 187 and the origin.
Card 1/2   All the remaining points deviate from the straight line and their de-

The Spectral Analysis of Pure Antimony Metal   SOV/81-59-16-56922

viation along the axis of the abscissa is equal to $nx/(n+1)$; hence the unknown con-
centration x can be found. The conditions of the analysis, among them the problem of
the background allowance, are not illuminated in the article. The found concentrations
of the admixtures in Sb are within the range of $n \cdot 10^{-4}$-$n \cdot 10^{-3}$%.

G. Kibisov.

Card 2/2

GAYDUKOVA, V.S.

Evolution of columbite and feramite replacing pyrochlore.
Zap. Vses. min. ob-va 89 no.4:460-464 '60.   (MIRA 13:11)

(Columbite)   (Feramite)   (Pyrochlore)

ZHABIN, A.G.; GAYDUKOVA, V.S.

Interrelation of pyrochlore, fersmite, and columbite niobates
in alkaline syenite and carbonatite complexes. Geol.rud.
mestorozh. no.1:87-98 Ja-F '62.   (MIRA 15:2)

1. Institut mineralogii, geokhimii i kristallokhimii redkikh
elementov AN SSSR, Moskva, i Vsesoyuznyy nauchno-issledovatel'-
skiy institut mineral'nogo syr'ya, Moskva.
                        (Mineralogy)

GAYDUKOVA, V.S.; ZDORIK, T.B.

Rare-metal minerals in carbonatites. Geol. mest. red. elem.
no.17:86-117 '62.   (MIRA 16:10)

(Carbonatites)   (Metals, Rare and minor)

BAGDASAROV, Yu.A.; GAYDUKOVA, V.S.; KUZNETSOVA, N.N.; SIDORENKO, G.A.

Find of lueshite in Siberian carbonatites. Dokl. AN SSSR 147
no.5:1168-1171 D '62.   (MIRA 16:2)

1. Predstavleno akademikom D.I. Shcherbakovym.
        (Siberia—Minerals) (Niobium compounds)

GAYDUKOVA, V.S.; POLUPANOVA, L.I.; STOLYAROVA, T.I.

Hatchettelite from carbonatites of Siberia. Min.syr'e no.7:86-95
'63.   (MIRA 16:9)
        (Siberia—Hatchettelite—Analysis)
            (Siberia—Carbonatites)

Gaydukova, Z. V.

GORODETSKAYA, N.V., kandidat khimicheskikh nauk; GAYDUKOVA, Z.V.; KIR'YANOVA, A.M.

Determining the degree of moisture in raw hides. Leg.prom.15 nq.10: 31 0 '55.   (MLRA 9:1)

(Hides and skins)

KAMAY, G.Kh.; NIKOLAYEVA, A.D.; NIKOLAYEV, V.S.; SAFRONOVA, L.M.;
GAYDUKOVICH, N.A.

Synthesis of β-bromo-γ-nitropropylene and study of its nitration
with nitrogen dioxide. Trudy KKHTI no.30:116-119 '62.

(MIRA 16:10)

S/133/62/000/004/006/008
A054/A127

AUTHORS: Baklushin, L.N.; Gaydukovskiy, N.V.; Dukhin, I.S.; - Engineers

TITLE: Electric-pulse machining of transverse flutes on grooves of rolls
              for rolling alternating reinforcement sections

PERIODICAL: Stal', no. 4, 1962, 330 - 333

TEXT: The Eksperimental'nyy nauchno-issledovatel'skiy institut metallore-
zhushchykh stankov (Experimental Scientific Research Institute of Metal-Cutting
Machine Tools, ENIMS) and the Magnitogorskiy metallurgicheskiy kombinat (Magnito-
gorsk Metallurgical Combine) have developed a pilot installation for fluting
rolls of elevated hardness by means of unipolar electric pulses of medium and
long duration (10^{-4} - 10^{-2} sec). The pilot equipment was designed in cooperation
with A.S. Opolinskiy (ENIMS), N.V. Gaydukovskiy, A.P. Shemyavich, I.L. Prisazh-
nyuk, G.M. Gubanishev and V.A. Bezobrazov (MMK). By this method the metal is re-
moved directly from the rolls by the force of loaded particles. Consequently,
the operating elements of the machine need only be of simple design and their
number can be increased considerably (up to more than 20 grooves). The tool need
not be of exceptionally hard or strong material; it may also have various shapes,

Card 1/3

the main object being that the shape is suitable for fluting at a high rate a
great number of grooves. An MГИ-2 (MGI-2) type machine generator was used for
the generation of the electric pulses (pulse frequency: 400/sec; average power
4.3 - 6.4 kw; current 80 - 100 amp; metal cutting rate (for steel) 1,200 -
1,500 mm^3/min; drive motor speed 3,000 rpm; its power: 6 kw). The pilot
equipment was reconstructed from an old horizontal milling machine. The electrode
is a copper tube, coiled with trapezoidal copper wire; the pitch and number of
threads correspond to the projections on the rolled rod. There are 3 patterns for
the interaction between the electrode and the roll (Fig. 1). Version II was used
on the pilot installation, ensuring a large contact surface between the roll to
be fluted and the electrode. In this version the electrode moves together with
the feed table and the roll rotates in the same direction. Version III of the
roll-electrode interaction, however, promises an even larger contact surface, in
spite of the process being intermittent, due to the reciprocating motion of the
electrode in this case. The feed is controlled automatically. The machine must
be adjusted in such a way that there is no play of the roll in the direction of .
the feed mechanism, that the electrode is fixed accurately in respect of the
groove axis and that the peripheral speed of the roll is synchronized with the
linear speed of the electrode. The number of flutes to be eroded (the number of

Card 2/4

Electric-pulse machining of transverse ....

S/133/62/000/004/006/008
A054/A127

threads on the electrode) can be calculated with $z = \frac{\pi D}{1}$ (D = roll diameter at the groove bottom, 1 = pitch of fluting). The total depth of the flute is obtained during one revolution of the roll. The method is applied in rolling No. 10 and 12 sections on the 250-I small section rolling mill (barrel-diameter 300 mm; barrel length 750 mm; roll-neck diameter 160 mm; roll-neck length 260 mm). After having tested rolls of various grades (alloyed cast iron, cast iron with an elevated nickel content, etc) and of varying hardness ($400 - 420$ H_B or $54 - 56$ H_{Sh}, $55 - 65$ H_{Sh}) it was found that for rolling No. 10 and 12 sections, rolls made of chilled carbon cast iron with a barrel minimum hardness of $70 H_{Sh}$ is the most suitable for this purpose. It is important that the working surface of the electric-pulse machined rolls does not form any stable joint with the metal rolled and scale, which would spoil the groove. The inclination of the flute walls is increased when the electric pulse method is used which improves the bond between concrete and reinforcement. The new fluting method saves 3.5% of metal on an average during rolling and reduces the weight of 1 running meter of sections from 944 to 912 g (with new grooves) and from 991 to 959 g (with worn grooves). The service life of electric-pulse machined rolls is increased by a factor of 2. There are 3 figures and 2 tables.

ASSOCIATION: Magnitogorskiy metallurgicheskiy kombinat (Magnitogorsk Metallurgical Combine)

Card 3/4

GAYDUKOVSKIY, Ya. (g Riga)

Workshop and dispensary for disabled workers. Prom.koop.no.5:37
My '56.   (MLRA 9:9)

1.Tekhnoruk arteli "Dzirkstele".
          (Riga--Disabled--Rehabilitation, etc.)

GHYDZHURIV, P.P.

AZBLITSKAYA, R.D., kandidat tekhnicheskikh nauk.;GAYDZHUROV, P.P., inzhener.

Increasing the efficiency of wet grinding of cement clinker.
Biul. stroi. tekh. 14 no.3:12-15 Mr '57.   (MLRA 10:5)

1. Novocherkasskiy politekhnicheskiy institut.
          (Cement)

PONOMAREV, I.F.; GRACH?YAN, A.N.; GAYDZHUROV, P.P.

Rapid determination of metallic iron in cements.   Zav.lab. 29 no.2:
163 '63.   (MIRA 16:5)

1. Novocherkasskiy politekhnicheskiy institut.
        (Iron—Analysis)   (Cement)

PONOMAR3V, I.F.; GRACH'YAN, A.N.; GAYDZHUROV, P.P.

Use of the magnetic method for determining the metallic iron
content of white Portland cement. Izv.vys.ucheb.zav.; khim. i
khim.tekh. 7 no.2:341-343 '64.   (MIRA 18:4)

1. Novocherkasskiy politekhnicheskiy institut, kafedra
tekhnologii vyazhushchikh veshchestv.

GAYED, Y.

The swirling flow under gravity through bottom outlets. Tr. From the English.

P. 138   (Hidrologiai Kozlony. Hydrological Journal. Vol. 37, no. 2, 1957,
Budapest, Hungary.)

Monthly Index of EastEuropean Accessions (EEAI) LC. Vol. 7, no. 2,
February 1958

NASSEF, El Adawy, prof.dr.; GAYED,Y.K., prof.dr.; KONKOLY,Balazs [translator]

The swirling flow under gravity through bottom outlets.
Hidrologiai Kozlony 37 no.2:138-148 '57.

GAYEK, M.I.; ROSHAL', M.Ye.

Early surgical intervention in paraphimosis. Khirurgiia no.9:78-79 S '53.
(MLRA 6:11)

1. Iz kliniki detskoy khirurgii (zaveduyushchiy - zasluzhennyy deyatel' nauki
professer I.S.Ginzburg) Azerbaydzhanskoge meditsinskoge instituta (direktor -
professer B.A.Byvasov).   (Penis)

32468

/6, 6100 (2403)

S/044/61/000/010/034/051
C111/C222

AUTHOR: Gayek, Yaroslav

TITLE: On a property of normal distributions of an arbitrary
            stochastic process

PERIODICAL: Referativnyy zhurnal. Matematika, no. 10, 1961, 8,
            abstract 10 V 37. ("Chekhosl. matem. zh.", 1958, 8, no. 4,
                                610-618)

TEXT: Two probability distributions $P\{\cdot\}$ and $Q\{\cdot\}$ given on a
certain Borel field $\mathcal{F}$ are equivalent ($P \equiv Q$) if the equations $P\{\Lambda\}$ =
= 0 and $Q\{\Lambda\}$ = 0 result one from another for all $\Lambda \in \mathcal{F}$.
Reversely : If a $\Lambda \in \mathcal{F}$ can be given so that $P\{\Lambda\} = 0$, $Q\{\Lambda\} = 1$,
then it is said that P and Q are mutually singular ($P \perp Q$). The author
considers the J-difference of the densities $p(x_1,\ldots,x_n)$ and
$q(x_1,\ldots,x_n)$ defined by the relation

Card 1/5

32468
S/044/61/000/010/034/051
On a property of normal distributions ...   C111/C222

$$J = M_p \left\{ \lg \frac{p}{q} \right\} - M_q \left\{ \lg \frac{p}{q} \right\}$$

χ

where M_p and M_q are the mathematical expectations of

$$\lg \frac{p(x_1, \ldots, x_n)}{q(x_1, \ldots, x_n)}$$

with respect to the densities $p(x_1, \ldots, x_n)$ and $q(x_1, \ldots, x_n)$. It is proved that for every $\epsilon > 0$ there exists a number K_ϵ with the following property : If n is an arbitrary natural number and if $p(x_1, \ldots, x_n)$ and $q(x_1, \ldots, x_n)$ are arbitrary (regular) n-dimensional normal densities

the J-difference of which satisfies the condition $J > K_\epsilon$ then there exists a $\Lambda \in F$ so that it holds

Card 2/5

On a property of normal distributions ...

$$\int_\Lambda p(x_1, \ldots, x_n)\,dx_1 \ldots dx_n < \varepsilon \quad ,$$

$$\int_\Lambda q(x_1, \ldots, x_n)\,dx_1 \ldots dx_n > 1 - \varepsilon \quad .$$

The proof is given at first for the special densities

$$p(x_1, \ldots, x_n) = (2\pi)^{-n/2} \exp\left\{ -\frac{1}{2} \sum_{i=1}^{n} x_i^2 \right\} \quad ,$$

$$q(x_1, \ldots, x_n) = (2\pi)^{-n/2} \exp\left\{ -\frac{1}{2} \sum_{i=1}^{n} \left[\left(\frac{x_i - \mu_i}{\sigma_i} \right)^2 - \lg \sigma_i^2 \right] \right\}$$

for which

$$J = \frac{1}{2} \sum_{i=1}^{n} \left[\frac{(\sigma_i^2 - 1)^2}{\sigma_i^2} + \mu_i^2 \left(1 + \frac{1}{\sigma_i^2} \right) \right] \quad ,$$

Card 3/5

32466
S/044/61/000/010/034/051

On a property of normal distributions ...   C111/C222

and then it is extended to arbitrary (regular) normal densities. It is stated that if the distribution of the vector $(x_1, \ldots, x_n)$ is normal

(regular or singular) then the equation $x_n = \sum_{i=1}^{n-1} c_i x_i + c_0$, whre c_i

are arbitrary constants, holds with the probability 0 and 1 . The author proves the basic theorem : Each two normal distributions $P\{\cdot\}$ and

$Q\{\cdot\}$ of the stochastic process $\{x_t, t \in T\}$ are either equivalent or mutually singular depending on the fact whether their J-difference is finite or infinite ; here it holds $J = \sup_{t_1 \ldots t_n \in T} J_{t_1 \ldots t_n}$ and

$J_{t_1 \ldots t_n}$ denotes the J-difference of the corresponding n-dimensional P

and Q distributions. The theorem is illustrated by two examples (in the first one the author obtains one process from another by a scale change

Card 4/5

32468

S/044/61/000/010/034/051

On a property of normal distributions ...   C111/C222

of the axis of values ; in the second one the author considers Gaussian
Markov processes with equal correlation functions and different means).

[Abstracter's note : Complete translation.]

Card 5/5

Gayek, Yu. V.

USSR/Physical Chemistry - Thermodynamics. Thermochemistry. Equilibria,
  Physical - Chemical Analysis, Phase Transitions.   B-8

Abs Jour: Referat. Zhurnal Khimiya, No 2, 1958, 3749.

Author : Yu. V. Gayek, B.L. Timan.
Inst   :
Title   : Influence of Multiple Thermal Ionization on Specific Heat of
          Gases.

Orig Pub: Zh. eksperim. i teor. fiziki, 1956, 31, No 4, 706-707.

Abstract: The gas specific heat adjustment (C'_V) for multiple thermal
          ionization was computed in a general form. The specific heat
          depends strongly on temperature in case of tens and hundreds
          of thousands degrees. See also RZhKhim, 1955, 54609.

Card   : 1/1   -1-

GAYEK, Yu.V., inzh.; DRUKOVANYY, M.F., inzh.

Research on the process of the breaking of a massif with instan-
taneous and short-delay blasting. Gor zhur. no. 6:29-33 Je '61.
                                                    (MIRA 14:6)

1. Dnepropetrovskiy gornyy institut.
                    (Blasting)

22871

S/077/61/006/004/003/004
D051/D113

3.1230 (1106, 1395, 1062)

AUTHORS: Belayenko, F.A.; Gayek, Yu.V.; and Drukovanyy, M.F.

TITLE: The use of a high speed moving film for the photoelastic study
of stresses occurring in solid bodies during an explosion

PERIODICAL: Zhurnal nauchnoy i prikladnoy fotografii i kinematografii,
v. 6, no. 4, 1961, 286-288   *(MIRA 14:11)*
(Л-Ay)

TEXT: The authors describe a new method of studying the dynamic fields of
isochromes originating during the explosion of charges in an optically act-
ive medium. Experiments based on this method are being carried out at the
laboratory of optical methods of studying stresses of DGI. For the photo-
graphical recording of stress waves, an $C\phi P$ (SFR) high speed cinemato-
graphic installation with a maximum speed of $2.5 \cdot 10^6$ frames/sec, in com-
bination with an $MMAUI-K\zeta 22$ (IMASH-KB-22) optical polarizing installation,
is used. In this case, plane stresses are investigated. The models are
plates made of optically active material with cylindrical perforations in
which a 0.05-0.12 g lead azide charge is located. The principal optical
scheme of the installation is shown in figure 1. On detonation of the

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The use of a high speed moving film ....

charge the camera mirror which rotates at 75,000 rev./min, transmits the image to a cine film with the aid of a system of shutters which permit the frame frequency to be increased to $2.5 \cdot 10^6$ frames/sec. An ИСШ 100-3 (ISSh 100-3) flash tube serves as a light source, the flash duration being reduced to 100 μsec. At a minimum inductance of the discharge circuit, this tube has sufficient brightness for the photographic recording of a picture of isochromes in red light. A high-voltage pulse is introduced, when the mirror is in the working position. This pulse is divided into two pulses by a voltage divider (Fig.2); one pulse ignites the tube, while the other is used for triggering the discharge across a gap in the starting circuit. The charge is ignited by combustion of a 30 μ thick constantan wire passing through it. Using this method, the authors obtained pictures of isochromes occurring in glass, plexiglass, and celluloid on detonation of charges in these materials. The clearest pictures obtained were those of isochromes occurring in celluloid, which has a mean optical sensitivity and a speed of propagation of stress waves of 1,600 m/sec. The described method can be sucessfully used for the study of dynamic stress fields, processes of fissure

Card 2/5

The use of a high speed moving film ....

22871
S/077/61/006/004/003/004
D051/D113

formation, the role of reflected waves, etc., in mountains during blasting operations. There are 3 figures and 5 Soviet references.

ASSOCIATION: Gornyy institut (Mining Institute), Dnepropetrovsk

SUBMITTED: August 10, 1960

Card 3/5

BELAYENKO, F.A., prof., doktor tekhn.nauk; GAYEK, Yu.V., gornyy inzh.;
    DRUKOVANYY, M.F., gornyy inzh.

Relationship between charges and the formation of a funnel in
instantaneous firing. Vzryv. delo no.47/4:230-239 '61.
                                                    (MIRA 15:2)

1. Dnepropetrovskiy gornyy institut.
                                    (Blasting)

GAYEK, YU. V.   21

PHASE I BOOK EXPLOITATION   SOV/6098

Assonov, V. A., and L. A. Paporotskiy, Resp. Eds.

Novoye v sredstvakh i sposobakh vzryvaniya (New Developments in
. Blasting Means and Methods). Moscow, Gosgortekhizdat, 1962.
124 p. (Series: Vzryvnoye delo; Sbornik no. 48/5) Errata
slip inserted. 3000 copies printed.

Sponsoring Agency: Nauchno-tekhnicheskoye gornoye obshchestvo.

Ed. of Publishing House: A. Ya. Koston'yan; Tech. Eds.: L. I.
Minsker and O. M. Il'inskaya.

PURPOSE: The book is intended for mining engineers, workers
in scientific research and planning organizations, and also
for teachers and students of mining and technical schools.

COVERAGE: This collection of articles describes new blasting
means and methods, means of protecting electric detonators
from stray currents, and improved methods of short-delay
detonation.

Card 1/6

3

New Developments in Blasting Means (Cont.)   SOV/6098

Gorbacheva, Ye. P. Assembling an Electric-Detonating Network
for Blasting Nondimensional Rock   98

Abinder, G. A. Safety Short-Delay Electric Detonators   101

Davydov, S. A. Selection of Means for Short-Delay Blasting   104

Rubtsov, V. K. Introduction of the КЗШ-58 Relay at the Sibay
Mine   108

Davydov, S. A., and L. S. Komarova. Industrial Testing of the
Factory-Produced КЗДШ-58 Pyrotechnic Relay   111

Hayek, Yu. V., M. F. Drukovannyy, and V. V. Mishin.
Burden-to-Spacing Ratio   113

Journal Decisions for 1960-1961 of the Gosgortekhnadzor RSFSR.
[Komitet po nadzoru za bezopasnym vedeniem rabot v promysh-
lennosti i gornomu nadzoru pri

Card 5/6

GAYEK, Yu.V., inzh.; DRUKOVANYY, M.F., inzh.; MOMOT, K.V., inzh.

Flow of blasting products from the hole. Izv, vys. ucheb. zav.;
gor. zhur. 5 no.1:84-89 '62.   (MIRA 15:4)

1. Dnepropetrovskiy ordena Trudovogo Krasnogo Znameni gornyy
institut imeni Artema. Rekomendovana kafedroy razrabotki
rudnykh mestorozhdeniy i otkrytykh rabot Dnepropetrovskogo
gornogo instituta.

                    (Blasting)

GAYEK, Yu.V., inzh.; DRUKOVANYY, M.F., kand.tekhn.nauk; MISHIN, V.V., inzh.

Effect of blasting operations on the stability of mine workings
and the amount of excess broken rock in driving them. Shakht.
stroi. 6 no.7:6-7 Jl '62.   (MIRA 15:7)

1. Dnepropetrovskiy gornyy institut.
                              (Blasting)

GAYEK, Yu.V.; DRUKOVANY, M.F.; MISHIN, V.V.

Mechanism of rock destruction and calculation of delay intervals in mining operations. Ugol' 37 no.7:22-25 Jl '62.   (MIRA 15:7)

1. Dnepropetrovskiy gornyy institut.
                (Blasting)

GAYEK, Yu.V.; DRUKOVANNYY, M.F.; MISHIN, V.V.

      Proximity coefficient of charges. Vzryv. delo no.48/5:113-122
      '62.   (MIRA 15:9)

      1. Dnepropetrovskiy gornyy institut.
                                (Blasting)

DRUKOVANYY, M.F., kand.tekhn.nauk; MISHIN, V.V., inzh.; GAYEK, Yu.V., inzh.

Shattering of rocks in instantaneous and short-delay
firing. Vzryv. delo no.50/7:31-44 '62.   (MIRA 15:9)

1. Dnepropetrovskiy gornyy institut imeni Artema.
                    (Blasting)

DRUKOVANYY, M.F., kand.tekhn.nauk; GAYEK, Yu.V., inzh.; MISHIN, V.V.

Effect of fracturing on the nature of rock shattering
by blasting. Vzryv. delo no.50/7:98-103 '62. (MIRA 15:9)

1. Dnepropetrovskiy gornyy institut imeni Artema.
           (Blasting)   (Rocks)

KUCHERYAVYY, Feodosiy Ivanovich; DRUKOVANYY, Mikhail Fedorovich;
    GAYEK, Yuriy Vladimirovich; DEMIDYUK G.P., otv. red.;
    GEYMAN, L.M., red. izd-va; SHKLYAR, S.Ya., tekhn. red.

[Short delay blasting in open-cut mines] Korotkozamedlennoe
vzryvanie na kar'erakh. Moskva, Gosgortekhizdat, 1962. 226 p.
                                        (MIRA 16:2)
    (Blasting) (Mining engineering)

GAYEK, Yu.V., inzh.

Breaking down a bench by detonating a vertical borehole
charge. Vzryv. delo no.50/7:48-55 '62.   (MIRA 15:9)

1. Dnepropetrovskiy gornyy institut imeni Artema.
                    (Blasting)

BELAYENKO, F.A., prof., doktor tekhn. nauk[deceased]; GAYEK, Yu.V.,
kand. tekhn. nauk; MISHIN, V.V., kand. tekhn. nauk

Study of stress fields in breaking rocks with column
charges. Varyv. delo no.51/8:77-85 '63.   (MIRA 16:6)

1. Dnepropetrovskiy gornyy institut.
        (Blasting)   (Strains and stresses)

GAYEK, Yu.V., kand. tekhn. nauk; DRUKOVANYY, M.F., kand. tekhn. nauk;
MISHIN, V.V., kand. tekhn. nauk

Speed of the development of fractures in rocks and solid bodies
and methods of measuring it. Vzryv. delo no.51/8:85-96 '63.
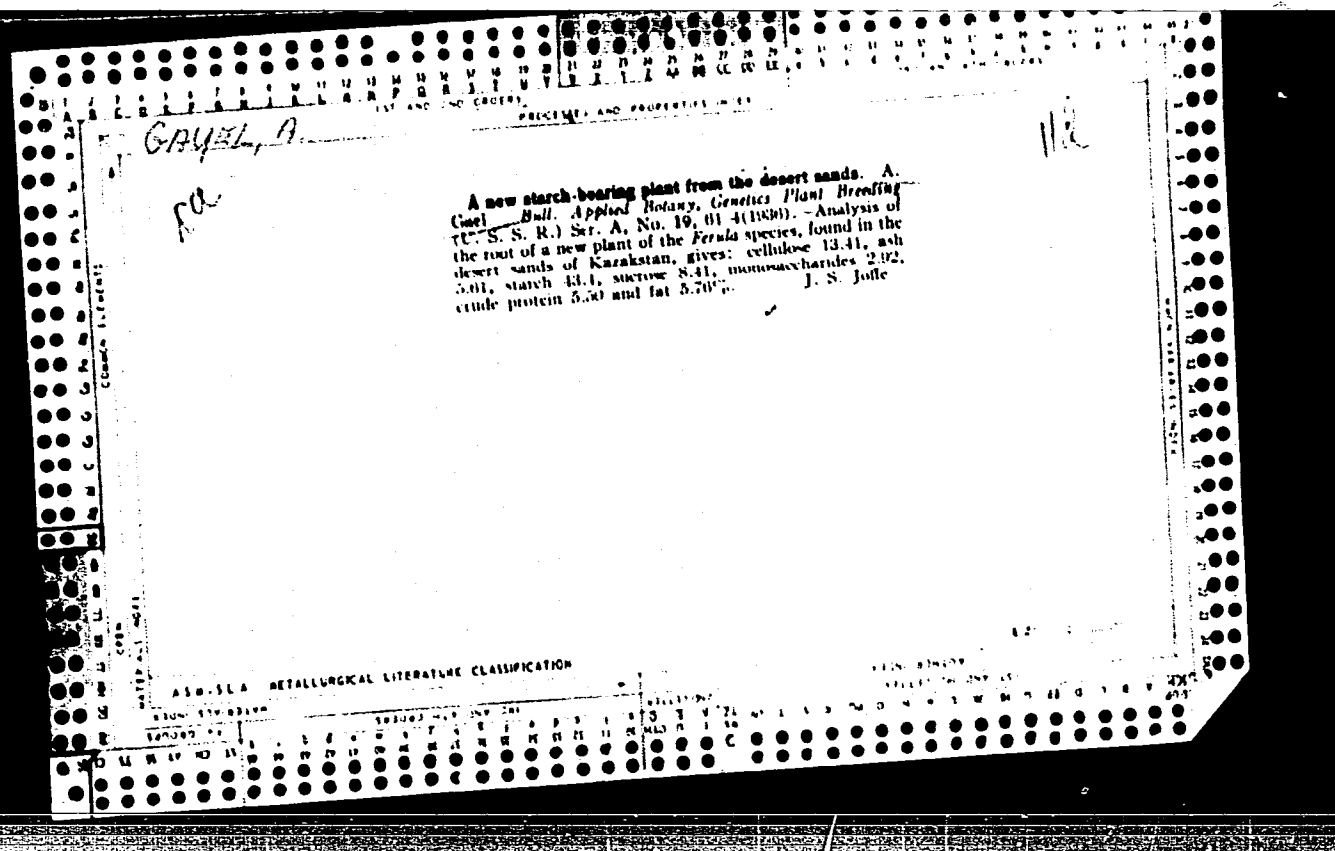
1. Dnepropetrovskiy gornyy institut.
                    (Blasting)

GAYEK, Yu.V., kand. tekhn. nauk; SHUMILO, V.A., inzh.

Stress waves of the central and axial symmetry in an elastic
and infinite medium, and the analysis of current views about
their nature. Vzryv. delo no.57/14:90-105 '65.

(MIRA 18:11)

1. Dnepropetrovskiy gornyy institut.

GAYEL, A.

A new starch-bearing plant from the desert sands. A. Gael. Bull. Applied Botany, Genetics Plant Breeding (U. S. S. R.) Ser. A, No. 19, 81 4(1936). — Analysis of the root of a new plant of the Ferula species, found in the desert sands of Kazakstan, gives: cellulose 13.41, ash 5.01, starch 43.1, sucrose 8.41, monosaccharides 2.92, crude protein 5.30 and fat 5.70%.   J. S. Joffe

METALLURGICAL LITERATURE CLASSIFICATION

BC

A. G. GAEL'

B-3-1

GAYEL', A. G.

21460   GAYEL', A. G.

Gidrologicheskiye nablyudeniya nad gruntovymi vodami v
peskakh Severnogo Priaral'ya.
Trudy Vtorogo Vsesoyuz. geogr. s"yezda, T. P.M., 1948, s. 255 - 63

SC: Letopis' Zhurnal'nykh Statey, No. 29, Moskva, 1949

GAYEL', A. G.

USSR/Soil Science
Permafrost
Jul 48

"Freezing and Thawing of the Ground in Northern Ural Regions in the Winter of 1946 - 1947," A. G. Gayel', 16 pp

"Pochvovedeniye" No 7

Results of observations on the action of freezing and thawing of light soils of the northern Ural regions. Freezing usually occurs in Nov, and all soils, regardless of composition, freeze at same time. Freeze lasts 100 - 160 days and

36/49T106

USSR/Soil Science (Contd)   Jul 48

thawing period 10 - 40 days. Depth of freezing is about 2 meters. During freezing period humid sands freeze and contain fissures which permit percolating surface waters and early thaw water to infiltrate.

36/49T106

GAYEL', A. G.

36776. Oblesenlye peskov v Severnam Priaral'ye. Vestnik Akad. nauk kazakh. SSR. 1949, No. 8, c. 38 - 42. -- Rezyume na kazakh. yaz.

SC: Letopis Zhurnal'nykh Statey, Vol. 50, Moskva, 1949

GAYEL', A. G.

"Afforestation of The Upper Don Sands," Pochvovedeniye, No 12, 1949.

Translation W-15552, 1 Dec 50

Priisral' Experiment. Station, all-Union Inst. Plant Ecology,
atyubinak Oblast'.

1. GAYEL', A. G. , KOLIKOV, M. S., MALYUGIN, YE. A., OSTANIN, YE. S.

2. USSR (600)

4. Geology and Geography

7. Sandy Deserts around the Northern Aral Sea and Ways to their Clarification,
    A. G. Gayel', M. S. Kolikov, Ye. A. Malyugin, Ye. S. Ostanin. (Institute of
    Deserts, Acad Sci Kazak SSR, Vol II, Alma-Ata, Press of Acad Sci Kazak SSR,
    1950.

9. Report U-3081, 16 Jan. 1953. Unclassified.

1. GAYEL' A. G.

2. USSR (600)

4. Geology and Geography

7. Afforestation of Hill Sands Around the Aral Sea. (Acad Sci USSR,
   Institute of Forests, Moscow, Press of Acad Sci USSR, 1951).
   Reviewed by M. S.Buyanovskiy and B. A. Fedorovich. Sov. Kniga, No. 7, 1952.

9. ▆▆Report U-3081, 16 Jan. 1953, Unclassified.

GAYEL, A.G.

SSR.

6,3-180   551.556.2:551.584
Gael', A. G., Polezashchitnoe lesorazvedenie v Severnom Priaral'e. [Shelter belts
forestation in the northern Aral region.] Akademiia Nauk SSSR. Institut Lesa. Nauchnye
Voprosy Polezashchitnogo Lesorasvedeniia, No. 1:309-327, 1951. 21 figs., 2 tables. DLC—
A number of microclimatic profiles show the influence of shelter belts on snow cover and soil
moisture (isopleths up to 200 cm), depending on air temperature and precipitation. Subject
Headings: 1. Microclimatic profiles 2. Shelter belt effects 3. Soil moisture.—A.A.

GAYEL', A. G.

Obleseniye bugristykh peskov zasushlivykh oblastey (Afforestation of hilly, sandy arid regions) Moskva, Geografgiz, 1952.
216 p. illus., diagrs., maps.
"Literatura": P. 207-216.

N/5
729.411
.G2

1. GAYEL', A. G.; KUNIN, V. N.

2. USSR (600)

4. Geology and Geography

7. The Field-Forest Improvement of Sands in the Deserts and Semideserts of the USSR, M. P. Petrov, D. L. Margolina (bibliographic editress). (Bibliography of literature in the Russian language, 1768- 1950. Academy of Sciences of Turkmen SSR   Library of Academy of Sciences of the USSR. Leningrad State Pedagogic Institute imeni M. N. Pokrovskiy. Ashkhadab. Acad Sci Turkmen SSR Press, 1952). Reviewed by A. G. Gayel' and V. N. Kunin, Sov. Kniga, No. 11, 1952.

9. 🖤 Report U-3081, 16 Jan 1953, Unclassified.

GAYEL', A. G.

"Forest Island in the Snads of Kazakhstan," Priroda, No.2, 1952

GAYEL', A. G.   and ALEKSEYEV, V. D.

"Fertilizing Forest Stock on Sandy Soil," Les. i step., 4, No.7, 1952

1. GAYEL', A.: ALEKSEYEV, V.

2. USSR (600)

4. Fertilizers and Manures

7. Letter to the editor. Les i step' 14 no. 11, 1952.

9. **Monthly List of Russian Accessions**, Library of Congress, __February 1953. Unclassified.

GAYEL', A. G., DZIUBA, A. S.

Caspian Sea Region - Afforestation

Afforestation of the semiarid dunes of the Caspian Sea area. Les. khoz. 5 no. 6 (1952)

9. Monthly List of Russian Accessions, Library of Congress, __August.__ 195/82 Uncl.

1. GAYEL', A. G. ; KUNIN, V. N.

2. USSR (600)

4. Petrov, Mikhail Platonovich, 1906-

7. Reclamation of sands of deserts and semi-deserts by agriculture and forestry in the U. S. S. R.; bibliography of the literature in Russian, 1768-1950." M. P. Petrov. Reviewed by A. G. Gayel', V. N. Kunin. Sov kniga no. 11.   '52.

9. **Monthly List of Russian Accessions**, Library of Congress, February___1953. Unclassified.

GAYEL',A.G., MEYERSON, E.G.

"Nature and agriculture of the Volga-Ural interfluve" by M.S.
Buianovskii, A.G.Doskach, V.M. Fridland. Reviewed by A.G.Gael',
E.G. Meerson. Izv.AN SSSR.Ser.geog. no.6:128-132 N-D '56.
(Caspian Depression--Geography)   (MLRA 10:1)

USSR / Forestry. Biology and Typology of the Forest.   K-2

Abs Jour: Ref Zhur - Biologiya, No. 1, 1958, 132.

Author : Gayel', A.G., Yakshina, A.M., Demidova, L.S.

Title   : A Living Pine Windfall in the Urda Sands

Orig Pub: Botan. zh., 1957, 42, No. 5, 756-759

Abstract: Described is an example of a living pine windfall
          in a growth, near the Zhaskus resort, which had
          been thinned out by cutting. The growth of the
          undamaged branch-shoots is described. It is
          noted that the biggest branch, situated at a dis-
          tance of 3.9 meters from the root collar, is
          fertile. Similar pine windfalls are known in
          the Siberian pine belts. The root system of the
          pine windfall is described.

Card 1/1

BOLYSHEV, N.N.; GAYEL', A.G., doktor sel'skokhozyaystvennykh nauk; GOL'DADE,
    E.A., agronom

Special problems of agriculture on sandy loam soils in areas where
new lands are being brought under cultivation. Zemledelie 6 no.12:
55-62 D '58.   (MIRA 11:12)
                    (Kazakhstan--Reclamation of land)

GAYEL', A.G.; PETRENKO, Ye.S.

Growth of pine on dunes of the Irtysh Valley. Nauch.dokl.vys.
shkoly; biol.nauki no.1:202-209 '59.   (MIRA 12:5)

1. Rekomendovana kafedroy fiziki i melioratsii pochv Moskovskogo
gosudarstvennogo universiteta im. M.V.Lomonosova.
                  (IRTYSH VALLEY--PINE)

GAYEL', A.G., SMIRNOVA, L.F.

Wind erosion of light soils in the Chestnut-Chernozem
zone of the U.S.S.R. Vest. Mosk. un. Ser. 6: Biol., pochv. 15
no.2:51-62 '60.   (MIRA 13:6)

1. Kafedra fiziki i melioratsii pochv Moskovskogo universi-
teta.
            (Russia, Southern--Erosion)

GAYEL', A.G.; LIDOV, V.P.

Problems in the study of soil erosion and its control. Nauch.
dokl. vys. shkoly; biol. nauki.no.4:178-185 '61.   (MIRA 14:11)

1. Rekomendovana kafedroy fiziki i melioratsii pochv Moskovskogo
gosudarstvennogo universiteta im. M.V.Lomonosova.
                    (SOIL CONSERVATION)

GAYEL', A.G.; TRUSHKOVSKIY, A.A.

Age and the classification of soils in the aeolian sands of the
steppe zone. Izv. AN SSSR. Ser. geog. no.4:28-42 Jl-Ag '62.
(MIRA 16:5)

1. Moskovskiy gosudarstvennyy universitet imeni M.V.Lomonosova i
Institut geografii AN SSSR.
(Sand dunes) (Geological time) (Steppes)

BRYSOVA, L.P.; GAYEL', A.G.

Materials on the evaluation of moisture in the sandy soils of
pine strip forests in the Irtysh Valley. Vest. Mosk. un. Ser.
6: Biol., pochv. 17 no.1:65-74 Ja-F '62.   (MIRA 15:1)

1. Institut lesa AN SSSR.
                         (Irtysh Valley--Pine)
                         (Soil moisture)

GAYEL', A.G.; TRUSHKOVSKIY, A.A.

Deflation phases and the age of soils on the aeolian sands in the steppe zone of the U.S.S.R. Vest. Mosk. un. Ser. 5: Geog. 17 no.6:24-31 N-D '62. (MIRA 16:1)

1. Biologo-pochvennyy fakul'tet Moskovskogo gosudarstvennogo universiteta i Institut geografii AN SSSR.
        (Sand dunes)   (Soil formation)

GAYEL', A.G.; VORONKOV, N.A.

Interrelationship between trees and herbaceous vegetation in
isolated pine woods of Kazakhstan. Nauch.dokl.vys.shkoly;
biol.nauki no.2:131-140 '63.   (MIRA 16:4)

1. Rekomendovana kafedroy geobotaniki Moskovskogo gosudarstven-
nogo universiteta im. M.V.Lomonosova.
        (KUSTANAY PROVINCE--PINE)   (FOREST ECOLOGY)

GAYEL', A.G.; SMIRNOVA, L.F.

      Classification of light soils based on their wind erodibility.
      Pochvovedenie no.4:1-15 Ap '65.   (MIRA 18:6)

      1. Moskovskiy gosudarstvennyy universitet.

GAYEL', A.O.

Stop wind erosion of soils. Vest. Mosk. un. Ser. 6: Biol., pochv. 20
no.3:3-12 My-Je '65.   (MIRA 18:7)

1. Kafedra fiziki i melioratsii pochv Moskovskogo universiteta.

GAYEL', A.G., prof.

Stop wind erosion of soils. Zemledelie 27 no.6:21-24 Je '65.
(MIRA 18:9)

1. Moskovskiy gosudarstvennyy universitet.

GAYEL', A.G.; VORONKOV, N.A.

Root system of the Scotch pine (Pinus silvestris L.) in the sandy soils of Kazakhstan and the Don Valley. Bot. zhur. 50 no.4:503-516 Ap '65.

(MIRA 18:5)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut agrolesomelioratsii, Pushkino, Moskovskoy oblasti.

GAYEL', A.G.; GUMILEV, L.N.

Uneven-aged soils on the steppe sands of the Don Valley and
the migration of peoples during the period of recorded history.
Izv. AN SSSR Ser. geog. no. 1:11-20   Ja F '66   (MIRA 19:2)

1. Moskovskiy gosudarstvennyy universitet i Leningradskiy gosu-
darstvennyy universitet imeni A.A. Zhdanova.

ACHKINAZI, S., inzh.-polkovnik; GAYENKO, A., inzh.-polkovnik; SHCHERBAN', V.,
inzh.-podpolkovnik; ANIKEVICH, R., kapitan tekhn. sluzhby;
KUZNETSOV, A., inzh.-kapitan; BIRYUKOV, A., starshiy inzh.-leytenant.

Experience in using a standard kit of universal accessories. Tankist
no.2:57-60 F '58.   (MIRA 11:3)
        (Tanks (Military science)--Maintenance and repair)

L 28382-66   EWP(c)/EWP(k)/EWT(d)/EWT(m)/EWP(h)/ETC(m)-6/T/EWP(1)/EWP(v)/EWP(t)/ETI

ACC NR: AP5023387   (A)   SOURCE CODE: UR/0317/65/000/005/0062/0066
                  IJP(c)   DJ/JD

AUTHOR: Vovk, F. (Major general of engineering-technical service);
Gayenko, A. (Engineer, Lieutenant Colonel); Gutman, M. (Engineer, Lieu-
tenant Colonel); Gershteyn, S. (Engineer, Lieutenant Colonel)

ORG: None

TITLE: Prolongation of machine life

TOPIC TAGS: ordnance engineering, military tank, internal combustion
engine

ABSTRACT: The present paper, consisting of three separate articles, deals
with the operation, maintenance and repair of armored tanks, engines and
auxiliary equipment. The authors of the first article, F. Vovk and
A. Gayenko, do not recommend overhauling new engines of the B-2 type
until a general overhauling of the entire tank is required. However,
meticulous checking of engine parts between general overhauls is strong-
ly recommended. In connection with this subject, an example of the
monthly discussions at the Ul'yanov Guard Armored Tank School was men-
tioned. Reducing-gear bearings of heavy tanks are to be checked after a
run of 200 to 300 km. The level of liquid in the engine cooling system
must be checked every 2 or 3 hours. A regular replacement of track

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chain pins can increase the run distance by 600 to 800 km. The cater-
pillars service life can be twice as long if they are kept well adjusted
and maintained. A set of gages for caterpillars was proposed by Officer
Lopatin. This set was shown in a figure, as well as a device for chang-
ing pins. In conclusion, further development of special commissions for
inspection of tanks was strongly recommended. The second article, by
M. Gutman, deals with the repair of engines and their parts at an auto-
mobile-repair plant. Mechanical cleaning of oil pipes and channels, use
of diamond drills for honing, careful cleaning of parts (including ult-
rasonic method) and other improvements were recommended. Filters, oil
radiators and fuel equipment were cleaned by using the UZG-10M device.
Mass production methods were introduced for cleaning and polishing oper-
ations. A special automatic device was invented for honing operations
of YaAZ engines. The advantages of diamond honing were stressed. The
machining of crankshafts was organized in cooperation with the Khar'kov
Automobile-Road Institute. Following the experience of the Khar'kov and
Yaroslavl' engine plants, the tightening of bolts were checked by dyna-
mometric wrenches. A table was presented showing the wrench types and
tightening forces to be applied to different engine parts. The third
article, by S. Gershteyn, contains some critical observations on various
suggestions such as: keeping the heating system connected in summer or
muffling the engine if the temperature of cooling liquid is 80 C. Ex-

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cessive inspection and duplication in control checking was also criti-
cized. The successful maintenance and repair practice of Omsk Armored
Tank Technical School was mentioned. Orig. art. has: 2 figures and
1 table.

SUB CODE: 19 / SUBM DATE: None / ORIG REF: 000 / OTH REF: 000

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22(3)   SOV/175-58-6-26/41

AUTHOR: Gayenko A., Engineer-Lieutenant – Colonel

TITLE: Repair in the Field

PERIODICAL: Tankist, 1958, Nr 6, pp 38-41 (USSR)

ABSTRACT: .The author refers only to the tank running gear. Such
               repair is most commonly needed under field conditions,
               and should be performed not only by fitters but also
               by the crew. The author raises the matter of camou-
               flaging the project. In summer, a simple frame assemb-
               led from clamped section-steel can be used. (Figure 1).
               In winter a metal workshop tent will do. The replace-
               ment of the track shoe and tensioning of the caterpil-
               lar is a simple operation. A pulley block and a crow
               bar are the tools to be used for tensioning (Figure
               2). Often, under field conditions, the bogie wheels
               have to be changed. This operation is fully explain-
               ed in the "Rukovodstvo po voyskovomu remontu" (Organi-
Card 1/4   zational Maintenance Guide). The removal of the bogie

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wheel must be performed very carefully. Damage to
the labyrinth packing grooves and the axle thread
must be avoided. This operation can be performed
with the help of Master Sergeant Styukhin's device
(Figure 3). The journal "Tankist" (Nr 2, 1958)
contains a detailed description of the device. An
incorrect tightening causes a displacement of bear-
ings. This is necessarily followed by a repeated
removal of the bogie wheel and a restarting of the
whole operation. To avoid this, a box spanner must
be used and kept fixed against the wheel hub until
the bearing fully enters its bush as is shown on
the sectional drawing (Figure 4). A very important
operation in field repair is replacement of the
torsion bar. This necessitates removal of one or
even two bogie wheels. The hydraulic GP-10-1 press
and the universal UK-8 device are used in this

Card 2/4   operation. The torsion bar must be slid out together

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with the rocker arm (Figure 5). This operation may
also be simplified by beating the torsion bar with
a hammer from inside the tank. The fitting of a
new torsion bar into the bracket grooves at the
opposite side of the tank is a difficult operation.
To achieve this, the device in Figure 3 must be used
conjointly with the set-spanner (Figure 6). On no
account should the rollers of the torsion bar sup-
port be driven in with a hammer. The replacement
of a driving wheel requires dismantling the whole
tank section. A special spanner is to be used for
this operation, as is shown in the sectional drawing
(Figure 7). When overhauling the caterpillar ten-
sion mechanism, the worms and worm wheels must be
skilfully handled. If wrongly mounted, connecting
the idler wheel with its crankshaft may prove to be

Card 3/4   difficult. The bolts of the armor plate may be

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Repair in the Field

        secured either with washers having bent rims or
with spring washers. There are 5 diagrams and 2
sectional drawings.

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GAYENKO, A., inzhener-podpolkovnik

Fruitful labor. Voen. vest. 42 no.5:111-112 My '63. (MIRA 16:5)
(Tank warfare--Technological innovations)

GAYENKO, A., inzhener-podpolkovnik; LEVKIN, V., mayor; KUDANOV, M., inzhener-
mayor

Greater attention to practice. Tekh. i vooruzh. no.2:40-43
F '64.   (MIRA 17:9)

KOLPAKOV, G.A., kand.med.nauk, zaslyzhenyy vrach RSFSR., GAYENKO, G.P.,
        kand.biol.nauk

    A case of echinococcosis of the spine. Ortop.travm. i protez.
    19 no.4:63-64 Jl-Ag '58   (MIRA 11:11)

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    zheleznodoroshnoy bol'nitsy g. Barnaula i kafedry biologii
    (zav. - G.P. Gayenko) Altayskogo meditsinskogo instituta.
            (SPINE, dis.
                    echinococcosis (Rus))
            (ECHINOCOCCOSIS, case reports
                    spine (Rus))

GAYENKO, G.P.

Distribution of echinococcosis in the Altai Territory. Report
No.1. Med. paraz. i paraz.bol. 27 no.2:148-150 Mr-Ap '58
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Using the TSIATIM-339 additive oil for IAAZ diesel engines. Avt.
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